

CURRICULUM VITAE

HAROLD ZENICK

BIOGRAPHIC DATA

Marital Status: Married, four children

Work Address: U.S. Environmental Protection Agency
National Health and Environmental Effects Research Laboratory (MD-87)
Research Triangle Park, NC 27711

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Cary, NC 27511

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EDUCATION

Undergraduate: North Texas State University, 1964-68
Denton, Texas
Degree: Bachelor of Science - Psychology/Biology

Graduate: University of Missouri, 1968-72
Columbia, Missouri
Degrees: Master of Arts, 1970 - Experimental Psychology
Doctor of Philosophy, 1972 - Physiological Psychology-
Psychopharmacology

Post Doctoral: University of Cincinnati, 1978-1980 - Department of Environmental Health,
Kettering Laboratory, Division of Toxicology

APPOINTMENTS

3/98 - Present Acting Director, National Health and Environmental Effects Research
Laboratory, Office of Research and Development, U.S. EPA, Research
Triangle Park, NC

6/95 - 3/98	Associate Director for Health, National Health and Environmental Effects Research Laboratory, Office of Research and Development, U.S. EPA, Research Triangle Park, NC
7/89 - 6/95	Deputy Director, Health Effects Research Laboratory, Office of Health Research, Office of Research and Development, U.S. EPA, Research Triangle Park, NC
6/91 - 6/93	Acting Chief, Epidemiology Branch, Division of Human Studies, Health Effects Research Laboratory, Office of Health Research, Office of Research and Development, U.S. EPA, Research Triangle Park, NC
11/88 - 7/89	Chief, Reproductive and Developmental Toxicology Branch, Office of Health and Environmental Assessment, Office of Research and Development, U.S. EPA, Washington, D.C.
8/85 - 11/88	Reproductive Toxicologist, Reproductive Effects Assessment Group, Office of Health and Environmental Assessment, Office of Research and Development, U.S. EPA, Washington, D.C.

Associate Professor (Adj) Department of Environmental Health, University of Cincinnati

University of Cincinnati:

9/82 - 8/85	Associate Professor, Department of Environmental Health, Director, Reproductive and Developmental Toxicology Group
8/80 - 8/82	Assistant Professor, Department of Environmental Health, Adjunct Appt., Department of Psychology
8/78 - 8/80	Post Doctoral Fellow Division of Toxicology, Department of Environmental Health (National Institute of Environmental Health Science Individual Research Service Award)

New Mexico Highlands University:

1976 - 1978	Director, Institute of Research (State agency for obtaining and directing research funding at Highlands)
1976 - 1978	Associate Professor of Psychology
1972 - 1976	Assistant Professor of Psychology

AGENCY AWARDS/HONORS

Performance Ratings

Outstanding Performance Rating (1998)
Outstanding Performance Rating (1997)
Outstanding Performance Rating (1996)
Outstanding Performance Rating (1995)
Outstanding Performance Rating (1994)
Outstanding Performance Rating (1993)
Exceeds Expectations (1992)
Outstanding Performance Rating (1991)
Outstanding Performance Rating (1990)
Outstanding Performance Rating (1989)
Outstanding Performance Rating (1988)
Outstanding Performance Rating (1987)
Exceeds Expectations (1986)

Awards

Agency nominee Presidential Meritorious Award (1997)
10% SES Bonus Award (1997)
Bronze Medal for Hard Work, Dedication, and Determination of the Border XXI Working Group;
the final Border XXI document represents an unprecedented binational effort to provide the
basis
for truly sustainable development in the U.S.-Mexico Border area (1996)
Bronze Medal for Outstanding Research and Leadership in Forging a Federal-State Partnership for
the U.S.-Mexico Border Lower Rio Grande Valley Exposure Study (1996)
Bronze Medal for Development of Innovative Health Effects Testing Program for Motor Vehicle
Fuel and Fuel Additive (1995)
Promotion from ES-02 to ES-03 (1994)
Special Act Award -- Forge a Unique Partnership to Address Environmental Health Issues
Associated with the U.S.-Mexico Border (1994)
5% SES Bonus Award (1994)

Co-Recipient of Office of Pesticides and Toxic Substances Joseph Seifter Memorial Award in
Regulatory Science (1994)
5% SES Bonus Award (1993)
Special Act Award (1993) -- Development of Interagency Strategy to Address Environmental
Health Issues in U.S.-Mexico Border Communities
Special Act Award (1992) -- Scientific Guidance on CAAA to Office of Air Quality Planning
and Standards (OAQPS) and Office of Mobile Sources (OMS)
Bronze Medal for Devising Hazard Ranking for Hazardous Air Pollutants Under Section 112G of
the Clean Air Act (1992)

Bronze Medal for Health Research "Lead" on ORD MMT Risk Evaluation Team (1991)
 Special Act Award (1990) -- Promoting cross-ORD approach to support Total Human Exposure Program with emphasis on biomarkers, pharmacokinetics, and epidemiology
 PMRS (Merit Pay) Award (1990)
 Special Act Award (1990) -- Development of Office of Research and Development (ORD) Research to Improve Health Risks Assessments Program
 PMRS (Merit Pay) Award (1989)
 Special Act Award (1988)
 Quality Salary Increase (QSI) (1987)
 Quality Salary Increase (QSI) (1986)
 Recipient National Institute for Environmental Health Sciences (NIEHS) Research Fellow Award (1978-80)

RECENT/ONGOING AGENCY ACTIVITIES

U.S. Co-Chair, Environmental Health Workgroup, Border XXI Program (1996-present)
 Co-Chair, Interagency Coordinating Committee on Environmental Health in U.S. Mexico Border Communities (1992-present)
 NHEERL Representative, ORD Science Information Management Coordination Board (SIMCorB) (1997-present)
 Member, ORD Science/Technology Promotion Review Board (1997-present)
 NHEERL Representative, RTP EEO Council (1997-present)
 Chair, Health Effects Institute Coordination Committee (1996-present)
 Member, ORD Science Council (1995-present)
 Member, ORD Environmental Justice and Community Based Environmental Protection Workgroup (1991-present)
 EPA Liaison to National Institute of Environmental Health Sciences Council (Oct. 1989-present)
 EPA Liaison to National Toxicology Program Board of Scientific Counselors (Oct. 1989-present)
 Member, Advisory Committee for EPA Minority Academic Institution Traineeship Program (1992-1997)
 Chair, Health Effects Other than Cancer Workgroup, U.S. EPA Risk Assessment Forum (1992-1994)

Workshop on Revising Guidelines for Drinking Water Quality Criteria for Protection of Human Health (1992)
 ORD Issue Planner for Anticipatory Research Program (1992)
 Member, FCCSET Working Party on Risk Assessment Research Needs (1991-1993)
 Clean Air Act Title III Implementation Workshop (August 20-22, 1991)
 ORD Awards Committee (Oct. 1989-1992)
 Chairman, EPA Risk Assessment Guidelines Concordance Workgroup - insure scientific/policy consistency across Agency's risk assessment guidelines (1988-1992)
 Director, ORD Research to Improve Health Risk Assessments (RIHRA) Program (1988-1990)
 Workshop to Assist with Interpretation of Scientific Data for Risk Assessment: Relationship between Sperm Measures and Fertility (Chair, 1987-1988)

Integrated Risk Assessment Workgroup - Level of Concern Workshop (1987)
 OHEA Reducing Uncertainties in Risk Assessment Research Committee (Chairman, 1986-1989)
 Hazard Evaluation of Noncancer Effects of Chlorinated Solvents Committee (1986-1988)
 Co-Author, EPA Guidelines for Male Reproductive Risk Assessment Committee (1985-1996)

TRAINING

ORD Project Officer Course for Assistance Agreements, April 10, 1997, Research Triangle Park, NC
 Healthy People of Color 2000: Are We on Track; 17th Annual Minority Conference, UNC School of Public Health, February 16-17, 1995, Chapel Hill, NC
 Inside Washington: Business and Public Policy (Focus on Health), Brookings Institute, May 1-5, 1994, Washington, DC
 Minority Academic Institute Traineeship Program, December 3, 1993, Crystal City, VA
 SES Contract Management Program, November 4-5, 1992, Arlington, VA
 SES Contract Management Responsibilities, June 4-5, 1992, Washington, DC
 1992 Executive Forum for Environmental Leadership, March 16-20, 1992, Crystal City, VA
 Clean Air Act Title III Implementation Workshop, August 20-22, 1991, Durham, NC
 Seventy-Five Day Rotational Assignment, Office of Air Quality Planning and Standards, Office of Air and Radiation, August 1 through October 15, 1991
 Executive Development, January 7-18, 1991, Executive Seminar Center, Kingspoint, NY

PROFESSIONAL ACTIVITIES

- present	Member, American Public Health Association
- present	Member, International Society of Environmental Epidemiology
- present	Member, Society of Occupational and Environmental Health
- present	Member, Society of Toxicology
1989 - 1990	President - Reproductive and Developmental Toxicology Specialty Section, Society of Toxicology
1987 - 1988	<u>ad hoc</u> reviewer/panel member NEEDS Superfund Research Program
1986 - 1989	Member, Editorial Board: Fundamental and Applied Toxicology
1985 - 1992	Member, March of Dimes Reproductive Hazards in the Workplace
Research	
	Advisory Committee
1982 - 1986	Member, General Research Support Review Committee, Division Research Resources, NIH
1980 - 1990	Member, Editorial Board: Neurobehavioral Teratology and Toxicology
1974 - 1986	<u>ad hoc</u> consultant/site visitor for NIH-Minority Biomedical Science Program

Journals for which have served previously as a regular reviewer

Neurotoxicology and Teratology
Neurotoxicology
Pharmacology Biochemistry and Behavior
Toxicology Applied Pharmacolgy
Fundamental Applied Toxicology
Journal of Andrology

PUBLICATIONS

Zenick, H., Brown, R.V., and Wright, D.C. Effects of experimentally induced hyperlysinemia in maze learning in mice. Physiol. and Behav., 2:429-433, 1973.

Zenick, H. Behavioral and biochemical consequences of methylmercury chloride toxicity. Pharmacol. Biochem. and Behav., 2:709-713, 1974.

*Brady, M., *Herrera, Y., and Zenick, H. Influence of parental lead exposure on subsequent learning ability in offspring. Pharmacol. Biochem. and Behav., 3:561-565, 1975.

*Frankenburger, W.P., and Zenick, H. Effects of methaqualone on learning: A failure to observe tolerance. Pharmacol. Biochem. and Behav., 2:529-531, 1975.

Zenick, H. Evoked potential alterations in methylmercury chloride toxicity. Pharmacol. Biochem. and Behav., 5:253-255, 1976.

Zenick, H., *Padich, R., Thatcher, T., and Aragon, P. Influence of prenatal and postnatal lead exposure on discrimination learning in the rats. Pharmacol. Biochem. and Behav., 8:347-351, 1976.

*Padich, R., and Zenick, H. The effects of developmental and/or direct lead exposure on behavior in the rat. Pharmacol. Biochem. and Behav., 6:371-375, 1977.

Feeney, D.M., *Longe, J.P., Cosden, M.A., *Zenick, H., and *Padich, R. Detection of the effects of lead exposure by visual evoked response latency. Physiol. Psychol., 7:93-96, 1979.

Zenick H., Pecorraro, F., *Price, D., Saez, M., and *Ward, J. Maternal behavior during chronic lead exposure and measures of behavior during chronic lead exposure and measures of offspring development. J. Neurobehav. Toxicol., 1:179-184, 1979.

Zenick H., Rodriguez, W., *Ward, J., *Elkington, B. Deficits in fixed interval performance following prenatal and postnatal lead exposure. Develop. Psychobiol., 12:509-514, 1979.

Zenick H., *Ward, J., Rodriguez, W., Aragon, P., and Scrivseth, R. Open field performance following maternal lead exposure: A question of dosage and nutritional status. Pharmacol. Biochem. Behav., 11:(suppl), 35-38, 1979.

Zenick, H. and *Goldsmith, M. Drug discrimination learning in lead-exposed rats. Science, 212:569-571, 1981.

Preshaw, R.L., *Zenick, H., and Stutz, R.M. Effects of parenteral morphine and oral methadone on self-stimulation in the rat. Pharmacol. Biochem. Behav., 16:81-85, 1982.

Rafales, L.S., Greenland, R., Zenick, H., *Goldsmith, M., and Michaelson, I.A. Responsiveness to d-amphetamine in lead-exposed rats as measured by steady-state levels of catecholamines and loco-motor activity. J. Neurobeh. Toxicol. Teratol., 3:363-367, 1982.

Zenick, H., Hastings, L., *Goldsmith, M., Niewenhuis, R.J. Chronic cadmium exposure: relationship to male reproductive toxicity and subsequent fetal outcome. J. Environ. Hlth. Toxicol., 9:377-387, 1982.

Zenick, H., Lasley, S., Succop, P., Caruso, V., Greenland, R., *Price, D., and Michaelson, I.A. Alterations in the CNS distribution of amphetamine in lead-exposed animals. Toxicol. Appl. Pharmacol., 64:52-63, 1982.

Zenick, H. Use of pharmacological probes to disclose Neurobehavioral deficits. Fed. Proc., 42(15):1391-1395, 1983.

Hammond, P.B. Bornshein, R.L. and Zenick, H. Toxicological considerations in the assessment of lead exposure. Neurotoxicol., 5:53-66, 1984.

Hastings, L., Zenick, H., Succop, P., and Sun, T.T. Relationship between hematopoietic parameters and behavioral measures in lead-exposed rats. Toxicol. Appl. Pharm., 73:416-422, 1984.

Oudiz, D., *Zenick, H., *McGinnis, P., and Niewenhuis, R.J. Male reproductive toxicity and recovery associated with ethoxyethanol exposure. J. Toxicol. Environ. Hlth., 13:763-775, 1984.

*Price-Oudiz, D. and Zenick, H. An evaluation of unscheduled DNA synthesis in semen of rats following MMS exposure. Environ. Mutagen.

Zenick, H., Blackburn, K., Hope, E. and Baldwin, D.J. An assessment of the copulatory, endocrinologic and spermatotoxic effects of carbon disulfide exposure in the rat. Toxicol. Appl. Pharm., 73:275-283, 1984.

Zenick H., Blackburn, K., Hope, E., *Oudiz, D., and *Goeden, H. Evaluation of male reproductive toxicity: a new animal model. Teratogen. Carcinogen. Mutagen., 4:109-128, 1984.

Zenick H., Blackburn, K., Hope, E., Smith, K. and Richdale, N. Effects of trichlorethylene exposure on male reproductive function. Toxicology, 31:237-250, 1984.

Zenick, H., Oudiz, D., and *Niewenhuis, R.J. Spermatotoxicity associated with acute and subchronic ethoxyethanol exposure. Environ. Hlth. Perspect., 57:225-231, 1984.

*Tepe, S., and Zenick, H. The effects of carbon disulfide on the reproductive system of the male rat. Toxicology, 32:47-56, 1984.

*Goeden, H., and Zenick, H. Influence of the uterine environment on rat sperm motility and swimming speed. J. Exptl. Zool., 233:247-251, 1985.

Blackburn, K., Zenick, H., Hope, E., Manson, J.M., George, E.L. and Smith, M.K. Evaluation of the reproductive toxicology of 2,4,6 tri-chloropenol in male and female rats. Fund. Appl. Toxicol., 6:233-239, 1986.

*Hurt, M., and Zenick, H. Reduction of epididymal reserves enhances the detection of ethoxyethanol-induced spermatotoxicity. Fund. Appl. Toxicol., 7:348-353, 1986.

*Nelson, J.L., and Zenick, H. The effect of trichloroethylene on male sexual behavior: Possible opioid role. Neurobehav. Teratol. Toxicol., 8:441-445, 1986.

*Oudiz, D. and Zenick, H. In vivo and in vitro evaluations of spermatotoxicity induced by 2-ethoxyethanol treatment. Toxicol. Appl. Pharm., 84:576-583, 1986.

Smith, M.K., Zenick, H., and George, E.L. Reproductive toxicity of disinfection by-products. Env. Hlth. Perspect., 69:177-182, 1986.

Smith, M.K., Zenick, H., George, E.L. Preston, R.J., and Long, R.E. Dominant lethal effects of subchronic acrylamide administration in the male Long-Evans rat. Mutat. Res., 173 (4):273-278, 1986.

Zenick, H. and Clegg, E. Risk assessment in male reproductive toxicology. J. Amer. Coll. Toxicol., 5:249-257, 1986.

Zenick, H., Hope, E., and Smith, K. Reproductive toxicity associated with acrylamide treatment in male and female rats. J. Toxicol. Environ. Hlth., 17:457-472, 1986.

Smith, M.K., George, E.L., Zenick, H., Manson, J.M., and Stober, J.A. Developmental toxicity of halogenated acetonitriles: drinking water. Toxicology, 46:83-93, 1987.

Sublet, V.H., Zenick, H., and Smith, M.K. Factors associated with reduced fertility and implantation rates in females mated to acrylamide-treated rats. Toxicology, 55:53-67, 1989.

Toth, G.P., Zenick, H., and Smith, M.K. Effects of epichlorohydrin on male and female reproduction in Long-Evans rats. Fund. Appl. Toxicol., 13:16-25, 1989.

Toth, G.P., Stover, J.A., Read, E.J. Zenick, H., and Smith, M.K. The automated analysis of rat sperm motility following subchronic epichlorohydrin administration: Methodological and statistical considerations. J. Androl., 10:401-415, 1989.

Hurt, M., and Zenick, H. Reproductive effects of ethylene dibromide in the male Long Evans rat (1989). Fund. Appl. Tox. (submitted).

Hertzberg, U.S., LeMasters, G.K., Zenick, H., and Hansen, K. Statistical issues in quantitative risk assessment of reproductive outcomes with chemical mixtures. Environ. Hlth. Perspect., 90:171-175, 1991.

LeMasters, G.K., Zenick H., Hansen, K., Hertzberg, V., and Clark, S. Fertility of workers chronically exposed to chemically contaminated sewer wastes. Reprod. Toxicol., 5:31-37, 1991.

Toth, G.P., Stober, J.A., Zenick, H., Read, E.J., Christ, S.A., and Smith, M.K. Correlation of sperm motion parameters with fertility in rats treated subchronically with epichlorohydrin. J. Androl., 12:54-61, 1991.

McDonnell, W.F., Zenick, H., and Hayes, C.G. U.S. Environmental Protection Agency's ozone epidemiology research program. A strategy for assessing the effects of ambient ozone exposure upon morbidity in exposed populations. J. of Air Waste Management Assoc., 43:950-954, 1993.

Lee, L.W., Griffith, J., Zenick, H., and Hulka, B.S. Human tissue monitoring and specimen banking: Opportunities for exposure assessment, risk assessment, and epidemiologic research. Environ. Hlth. Perspect., 103 (Suppl. 3):3-8, 1995.

Sexton, K., Reiter, L.W., and Zenick, H. Research to strengthen the scientific basis for health risk assessment: A survey of the context and rationale for mechanistically based methods and models. Toxicology, 102:3-20, 1995.

Zenick, H., and Griffith, J. The role of specimen banking in risk assessment. Environ. Hlth. Perspect., 103 (Suppl. 3):9-12, 1995.

Zenick, H., LeMasters, G.K., Hertzberg, V., and Meyer, C.R. Semen evaluations in workers chronically exposed to chemically contaminated sewer wastes. Reprod. Toxicol., submitted 1995.

Akland, G.G., Schwab, M., Zenick, H., and Pahl, D. An interagency partnership applied to the study of environmental health in the Lower Rio Grande Valley of Texas. Environment International, Spec. Ed. "Environmental Aspects of the Lower Rio Grande Valley," 23(5):595-609, 1997.

Zenick, H. and Costa, D.L. Susceptibility and risk: an overview. Environ. Toxicol. Pharmacol., 4:187-188, 1997.

* Graduate Student

Books, Chapters, Published Symposia

Zenick, H. Methodological and statistical considerations in drug stimulus discrimination tasks. In Behavioral Biology: Drug Discrimination and State Dependent Learning. (Eds.) B.T. Ho and D. Richards. Academic Press, New York (1978).

Murray, H., Gurule, M., and Zenick, H. Effects of lead exposure on developing rat parietal cortex. DOE Symposium Series. 47. (Eds.) D.D. Mahlum, M.R. Sikov, R.L. Hackett and P.D. Andrew, pp. 520-533 (1979).

Zenick, H. A comparison of various developmental strategies employed in behavioral toxicology. In Behavioral Toxicology: An Emerging Discipline, (Eds.) H. Zenick and L. Reiter. Government Printing Office (1979).

Zenick, H. and Reiter, L. (Eds.). Behavioral Toxicology: An Emerging Discipline. Government Printing Office (1979).

Zenick, H. Use of pharmacological probes in behavioral toxicology. Proceedings XI Annual Conference on Environmental Toxicology. University of California, pp. 24-37 (1981).

Manson, J., Zenick, H., and Costlow, R. Teratology test methods. In Methods in Toxicology. (Ed.) W. Hayes, Raven Press (1982).

Legator, M., Rosenberg, M., and Zenick, H. (Eds.) Environmental Influences on Fertility, Pregnancy, and Development. Strategies for Measurement and Evaluation. Alan R. Liss, New York (1984).

Zenick, H. Animal models for assessing male reproductive toxicity. Proceedings XIV Annual Conference on Environmental Toxicology, University of California (1984).

Zenick, H. Mechanisms of environmental agents by class associated with adverse male reproductive outcome. In Reproduction: The New Frontier in Occupation and Environmental Health Research. (Ed.) J.E. Lockey, Alan R. Liss, NY, pg. 335-362 (1984).

Zenick, H. Evaluation of reproductive behavior and sperm in rats. Role in reproductive toxicity assessment. In Lamb, J.C. and Foster, P.M.D. (eds.) Physiology and Toxicology of Male Reproduction. Academic Press, NY (1988).

LeMasters, G.K., and Zenick, H. Reproductive assessment of workers exposed to hazardous waste. In Hazardous Waste Management and Control Weighing the Risks. (Ed.) J.E. Lockey, Alan R. Liss., NY (1988, in press).

Burger, E.J., Tardiff, R.G., Scialli, A.R., and Zenick, H. (Eds.). Sperm Measures and Reproductive Success. Prog. Clin. Biol. Research, Vol. 302, Alan R. Liss, NY (1989).

Zenick, H. Risk analysis in reproductive toxicology. In Toxicology of the Male and Female Reproductive System. (Ed.) P.K. Working, Hemisphere Publ., NY, pp. 339-353 (1989).

Zenick, H., and Clegg, E.D. Assessment of male reproductive toxicity: A risk assessment approach. In Principles and Methods of Toxicology, 2nd edition. (Ed.) A.W. Hayes, Raven Press, NY, pp. 275-309 (1989).

Vandenberg, J.J., Fowle, J.R., and Zenick, H. EPA's research to improve health risk assessments (RIHRA) program: Overview and water-related research. In Proceedings of the American Water Works Association Annual Conference, Philadelphia, PA, June 23-27, 1991, EPA/600/D-91/187.

Zenick, H., Clegg, E.D., Perreault, S.D., Klinefelter, G.R., and Gray, L.E. Assessment of male reproductive toxicity: A risk assessment approach. In Principles and Methods in Toxicology, 3rd Edition. (Ed.) A.W. Hayes, Raven Press, pp. 937-988 (1994).

Zenick, H., Perreault, S., and Richards J. Paternally-mediated developmental toxicity. Implications for risk assessment and science policy. In Proceedings of Symposium on Male-Mediated Developmental Toxicity. (Eds.) D.R. Mattison and A.F. Olsham, Plenum Press, NY, pp. 285-292 (1994).

Abstracts (Published):

Brown, R.V., Zenick, H., Cox, V., and Fahim, M. The effects of methyl-mercury chloride on maze learning in mice. Federation Proceedings, 31:552, 1972.

Zenick, H. and Brown, R.V. Experimentally induced hyperlysinemia. Federation Proceedings, 31:680, 1972.

Zenick, H., Wright, D.C., and Brown, R.V. Behavioral, biochemical, and electrophysiological correlates of mercury toxicity. Federation Proceedings, 32:849, 1973.

Zenick, H., Bayles, R., and Herrera, Y. Stimulus control properties of methaqualone. Federation Proceedings, 33:527, 1974.

Murray, H., and Zenick, H. Effects of lead on developing rat brain. J.S. Carolina Med. Assoc., 1976.

Zenick, H., Padich, R., and Murray, H. Behavioral effects of developmental and postweaning lead exposure. Federation Proceedings, 35:611, 1976.

Murray, H., Zenick, H., and Padich, R. Effect of lead exposure on developing rat perietal cortex. Am. Assoc. of Anatomy, 1977.

Zenick, H., Ward, J., and Rodriguez, W. Deficits in fixed interval responding following prenatal and/or postnatal lead exposure. Federation Proceedings, 37:394, 1978.

Rafales, L.S., Zenick, H., Michaelson, I.A., Greenland, R.D., and Caruso, V. A Neurobehavioral Profile of Chronic Lead Toxicity. 19th Annual Meeting Society of Toxicology. Washington, D.C., March 1980.

Goldsmith, M., Tepe, S., Zenick, H., and Manson, J. Effects of xenobiotics on various parameters of spermatotoxicity. Toxicol. 1:151 (A550) 1981.

Zenick, H., Lasley, S., Greenland, R., and Michaelson, I.A.. Brain levels and attenuated response to d-amphetamine (d-A) in male and female lead exposed rats. Federation Proceedings, 40, 1981.

Tepe, S.J., and Zenick, H. Assessment of male reproductive toxicity: Use of a new technique. Toxicol., 2:77(A272), 1982.

Zenick, H., and Oudiz-Price, D. Male reproductive insult and recovery associated with ethoxyethanol exposure. Toxicol., 3:20(A80), 1983.

Hope, E. Blackburn, K., Zenick, H., Meyer, C., and Rafales, L. Computerized evaluations of human sperm. Soc. Study Reprod., 1984.

Oudiz, D., Zenick, H., and Niewenhuis, R.J. Effects of repeated exposure to 2-ethoxyethanol on the male reproductive system in rats. Toxicol., 4:81(A321), 1984.

Ward, D., Zenick, H., Wilfinger, W.W., and Niewenhuis, R.J. Effect of dibutyl phthalate on two strains of young male rats. Toxicol., 4:82(A328), 1984.

George, E.L., Zenick, H., Manson, J.M., and Smith, M.K. Developmental studies of acetonitrile and haloacetonitriles in the Long-Evans rat. Toxicol., 5:115(A458), 1985.

Goeden, H., and Zenick, H. Disposition of ethanol in blood and uterine fluid of estrous rats. Toxicol., 5:186(A741), 1985.

Oudiz, D., Hurtt, M., and Zenick, H. Relationship between blood and seminal concentrations for ethoxyethanol and ethylene dibromide (EDB). Toxicol., 5:115(A457), 1985.

Oudiz, D., Zenick, H., and Radike, M. In vivo effects of ethoxyacetic acid on energy metabolism in isolated pachytene spermatocytes. Toxicol., 5:116(A461), 1985.

Ward, J.A., Zenick, H., and Wilfinger, W.W. Age as a factor in male reproductive toxicity to di-n-butyl phthalate (DBP). Toxicol., 5:117(A465), 1985.

Zenick, H., Hope, E., and Smith, K. Reproductive dysfunction associated with acrylamide treatment. Toxicol., 5:118(A469), 1985.

Clegg, E.D., and Zenick, H. Issues in male reproductive risk assessment. Toxicologist, 6:31(A123), 1986.

George, E.L., Smith, M.K., Zenick, H., and Hastings, L. Developmental toxicity associated with acrylamide exposure in Long-Evans rats. Toxicologist, 6:90(A358), 1986.

LeMasters, G.K., Zenick, H., Hansen, K., Meyer, C., Hertzberg, V., and Clark, S. Application of various exposure models to assess the reproductive effects of industrial wastes on male workers. Toxicologist, 6:98(A389), 1986.

Hurtt, M., and Zenick, H. Reproductive effects of ethylene dibromide in the male Long Evans rat.

Hurtt, M., and Zenick, H. Reduction of epididymal reserves enhances the detection of ethoxyethanol-induced spermatotoxicity. Toxicologist, 6:291(A1170), 1986.

Smith, M.K., Zenick, H., Long, R.E., Preston, R.J., and George, E.L. Dominant lethal effects of subchronic acrylamide administration in the male Long-Evans rat. Toxicologist, 6:296(1188), 1986.

Sublet, V.H., Smith, M.K., Randall, J., and Zenick, H. Spermatogenic stages associated with acrylamide-induced dominant lethality. Toxicologist, 6:292(A1171), 1986.

LeMasters, G.K., Hansen, K., and Zenick, H. Reproductive assessment of male waste water workers. Toxicologist, 7:180(721), 1987.

Sublet, V.N., Smith, M.K., and Zenick, H. Acrylamide-induced pre-implantation loss in rats. Toxicologist, 7:178(713), 1987.

Clegg, E.D., and Zenick, H. Restricting mating trials enhances the detection of ethoxyethanol (EE)-induced fertility impairment in rats. Toxicologist, 8:119(473), 1988.

Sublet, V., Smith, M.K., and Zenick, H. Acrylamide (ACR)-induced fertilization failure in rats. Toxicologist, 8:120(477), 1988.

Toth, G.P., Stober, J.A., Read, E.J., Zenick, H., and Smith, M.K. Automated sperm analysis: epichlorohydrin (ECH) a model compound. Toxicologist, 8:118(471), 1988.

Clegg, E.D., Zenick, H., Campbell, B.J., and Busher, H.F. Dose response assessment of ethoxyethanol effects on male rat reproduction with single ejaculate mating. Toxicologist, 9, 91:361, 1989.

Sexton, K., Zenick, H., and Linthurst, R.A. Future directions in risk assessment, AAAS, San Francisco, January 1989.

Toth, G.P., Zenick, H., Christ, S., and Smith, M.K. Correlation of sperm motion parameters with fertility in rats treated subchronically with epichlorohydrin. Biol. Reprod., 40(Suppl. 1), A29, 19_.

Kimmel, G.L., Kimmel, C.A., and Zenick, H. Reproductive and developmental toxicity risk assessment for short-term exposure to ethylene oxide. Toxicologist, 9, 45:492, 1990.

Vandenberg, J.J., Fowle, JR., and Zenick, H. EPA's research to improve health risk assessments (RIHRA). American Water Works Association Annual Meeting and Conference, June 1991.

Kimmel, C.A., and Zenick, H. Alternatives to the NOAEL/UF approach for quantitative noncancer risk assessment. Toxicologist, 12, 23:1329, 1992.

PRESENTATIONS AT SYMPOSIA OR WORKSHOPS

Zenick, H. Statistical considerations in drug stimulus discrimination learning. Symposium: Behavioral Biology. Southwestern Psychological Association. Houston, TX, 1975.

*Zenick, H. Developmental models in behavioral toxicology. Symposium: Behavioral Toxicology: An Emerging Discipline. Southwestern Psychological Association, Albuquerque, NM, 1976.

Zenick, H. Symposium: Neurobehavioral Correlates of Environmental Pollutants. American Psychological Assoc., Washington, DC, 1976.

Zenick, H. Workshop: Effects of lead exposure on CNS function. EPA, Hendersonville, NC, 1976.

Zenick, H. Workshop: Effects of lead on brain and behavior. Tenth Annual UCLA Winter Brain Research Conference, Keystone, CO, Jan. 1977.

Zenick, H., Ward, J. and H. Murray. An interdisciplinary profile of developmental lead exposure. Symposium: Lead-Induced CNS Changes and Patterning of Behaviors. American Psychological Association, San Francisco, CA, 1977.

Zenick, H. Symposium: Acute and protracted effects of perinatal drug exposure. Problems of Drug Dependence, Philadelphia, PA, 1979.

Zenick, H. Symposium: Neurotoxicants and adaptive responses of the nervous system. Federation Adv. Soc. Exptl. Biol. (FASEB), New Orleans, LA, 1982.

Zenick, H. Evaluating semen competence in rodents: A new animal model and its relation to human beings. In Conference on Environmental Influences on Fertility, Pregnancy and Development. Co-sponsored by NIOSH and March Dimes, Cincinnati, OH, 1982.

Zenick, H. Mechanisms of environmental agents by class associated with adverse reproductive outcomes. In Reproduction: The New Frontier in Occupational and Environmental Health 5th RMCOEH Conference, Salt Lake City, UT, April 1983.

Zenick, H. Animal models for assessing male reproductive toxicity. Proceedings XIV Annual Conference on Environmental Toxicology. University of California, Dayton, OH, Nov. 1983.

Zenick, H. Risk assessment and reproductive toxicology. Male Reproductive Toxicology Symposium, Sixth Annual Meeting of American College of Toxicology, Washington, DC, Nov. 1985.

Zenick, H. Approaches to assessing male reproductive toxicity. In Workshop on Male Reproduction, Middle Atlantic Reproduction and Teratology Association, Somerville, NJ, Feb. 1986.

Zenick, H. Reproductive Toxicity Assessment. Toxicology Forum 1987 Meeting, Washington, DC, Feb. 1987.

Zenick, H. Risk analysis in reproductive toxicology. Toxicology of the Male and Female Reproductive Systems, Ninth CIIT Conference on Toxicology. Research Triangle Park, NC, Sept. 1987.

Zenick, H. Assessing male reproductive risk in the workplace. ORC Occupational Safety and Health Physicians Group Meeting, Washington, DC, Feb. 1988.

Zenick, H. Overview of the spermatogenic process. Workshop on Methods in Male Reproductive Toxicity: Evaluating Spermatogenic Impairment. Society of Toxicology, Dallas, TX, Feb. 1988.

Zenick, H. Symposium on Factors in Early Embryo Loss. Society of Toxicology, Atlanta, GA, Feb. 1989.

Zenick, H. Coordination of Risk Assessment and Regulatory Programs (Group Chair). OTA Workshop on Federal Interagency Coordination of Neurotoxicity Research and Regulatory Programs, Washington, DC, May 1989.

Zenick, H. Weight of Evidence Considerations in Identifying Reproductive Toxicants. Workshop on Risk Assessment Issues in Reproductive and Developmental Toxicology, Berkeley, CA, Sept. 1989.

Zenick, H. Overview of Risk Assessment Guidelines. Eleventh Lead and Health Conference. Lead Industries Association. Chicago, IL, Oct. 1989.

Zenick, H. The process of spermatogenesis. In: In Vivo and In Vitro Measures of Germ Cell Damage. Genetic Toxicology Association, Wilmington, DE, May 1990.

Zenick, H. Concordance on noncancer risk assessment issues. Workshop on Noncancer Methods and Data Needs to Support the Clean air Act Amendments. Research Triangle Park, NC, July 1990.

Zenick, H. Organ system and modeling issues (Panel Moderator). SRA Workshop on Noncancer Risk Assessment. Society for Risk Analysis, Research Triangle Park, NC, Oct. 1990.

Zenick, H. Methodological challenges in studying health effects of air pollution: Experimental studies (Session Chair/Organizer). Society for Occupational and Environmental Health, Crystal City, VA, March 1991.

Zenick, H. The elements of risk assessment. Symposium on Improving the Contributions of Epidemiology to Environmental Risk Assessment, International Society for Environmental Epidemiology, Buffalo, NY, June 11, 1991.

Zenick, H. Conference on the Health Effects of Air Pollution: What We Know--What Decisions to Take (Invited Speaker). California Air Resources Board, Los Angeles, CA, Nov. 20-21, 1991.

Zenick, H, and Perreault, S. Paternally-mediated developmental toxicity: Implications for risk assessment and science policy. Symposium on Male-Mediated Developmental Toxicity, University of Pittsburgh Graduate School of Public Health, Pittsburgh, PA, Sept. 9-16, 1992.

Zenick, H. Health Risk Assessment Research At EPA: An Overview of the Health Effects Research Laboratory (Invited Speaker). N.C. State College of Veterinary Medicine, Raleigh, NC, Dec. 15, 1992.

Zenick, H. Risk assessment and science policy. Symposium on Male-Mediated Developmental Toxicity: Fact or Fiction, Society of Toxicology, New Orleans, LA, March 1993.

Zenick, H. Exploring the role of specimen banking within the framework of risk assessment practices. Human Tissue Monitoring and Specimen Banking: Opportunities for Exposure Assessment, Risk Assessment, and Epidemiology, University of North Carolina, Chapel Hill, NC, March 1993.

Zenick, H. Symposium context and goals. Roundtable on Reproductive Effects of Disinfection Byproducts in Drinking Water. EPA/ILSI Workshop. Research Triangle Park, NC, June 1993.

Zenick, H. Addressing environmental issues along the U.S.-Mexico Border. Session on Current Border Initiatives. Society for Occupational and Environmental Health, Crystal City, VA, Sept. 1993.

Zenick, H. An interagency research program to address environmental health issues along the U.S.-Mexico border. New Partnerships, Occupational Health Conference, Scottsdale, AZ, Sept. 30-Oct. 3, 1993.

Zenick, H. An interagency research program to address environmental health issues along the U.S.-Mexico border. Second Annual Director's Symposium of the California Department of Toxic Substances Control. Sacramento, CA, December 16, 1993.

Zenick, H. and Teitelbaum, H. Improving the process for assessing non-cancer health risk. New Developments in Risk Assessment of Non-Carcinogenic Toxic Compounds in the Environment. 87th Annual Meeting of the Air and Waste Management Association, Cincinnati, OH, June 1994.

Francis, E.G., Akland, G., and Zenick, H. Update on Brownsville: Results of pilot exposure study and future activities. Poster presentation at Teratology Society Meeting, June 1994.

Zenick, H. Reinventing the Health Effects Research Laboratory, 1988-1994. North Carolina State University, College of Agriculture and Life Sciences, Administrative Retreat. Chapel Hill, NC, October 4, 1994.

Zenick, H. Role of Research in Addressing Community Environmental Health Concerns: Experiences in the Lower Rio Grande Valley. Invited presentation for (1) The Environmental Equity Seminar Series, Duke University, Durham, NC, March 20, 1995; and (2) University of North Carolina, Chapel Hill, NC, April 17, 1995.

Zenick, H. Integrating U.S.-Mexico Border Environmental Health Data. Invited U.S.A. Keynote Address at Toxicology Has No Borders. The West Texas Regional Poison Center, El Paso, TX, June 23, 1995.

Zenick, H. Strategies for Interagency Cooperation. Invited presentation at NAFTA & Health, Universities for a Healthier Border Environment, International Conference, Galveston, TX, December 4-5, 1995.

Zenick, H. Invited participant at the Binational U.S./Mexico Conference on Neural Tube Defects, El Paso, TX, January 10-12, 1996.

Zenick, H. Invited participant at the National Center for Environmental Health Planning for Performance Meeting, Centers for Disease Control and Prevention, Atlanta, GA, February 13, 1996.

Zenick, H. Co-Chair Border XXI, Environmental Health Workgroup, El Paso, TX, March 25-28, 1996.

Zenick, H. Invited participant at Symposium on Environmental Health Issues in the U.S.-Mexico Border Region: Public Perceptions, the Knowledge Base, and Public Policy,” Udall Center, University of Arizona, Tucson, AZ, March 29-30, 1996.

Zenick, H, and Akland, G. Using environmental exposure data to set environmental health priorities/interventions in a community setting. Invited keynote speaker at Symposium on Measurement of Toxic and Related Air Pollutants, Air & Waste Management Association, Research Triangle Park, NC, May 9, 1996.

Zenick, H. Invited participant at the Sentinel Disease meeting, National Institute for Environmental Health Sciences, Research Triangle Park, NC, July 8, 1996.

Zenick, H. Invited participant at the ILSI Risk Science Institute’s Working Group Meeting, Washington, DC, July 16-17, 1996.

Zenick, H, and Walker, B. Co-Chairs of the Session, Incorporating susceptibility factors into risk assessment,” Third Annual NHEERL Symposium on Susceptibility and Risk, Durham, NC, September 24-27, 1996.

Zenick, H. Developing effective community outreach/public participation for Border XXI: The role of the association and its members. Invited presentation at the U.S. Mexico Border Health Association’s 55th Annual Conference, Phoenix, AZ, June 4-6, 1997.

Cottrill, C.A., Berry, M.R., Zenick, H., and Akland, G. Microbiological quality of vended drinking water stored in homes in the Lower Rio Grande Valley: Reporting Findings in Terms of Reducing Environmental Exposures. Invited poster displayed at Food Safety Education Conference sponsored by USDA, FDA, CDC, Washington, DC, June 12-13, 1997.

Zenick, H. Using environmental data to set environmental health priorities/interventions in a community setting. Invited presentation at the American College of Occupational Medicine Workshop, Nashville, TN, October 27-28, 1997.

Zenick, H. Research, risk assessment, and regulation: Linking the three R's of environmental decision making. Invited keynote speaker at the Toxicology Program, University of Michigan, Ann Arbor, MI, March 27, 1998.

Zenick, H. Models in International Cooperation: Experiences in Addressing Border Environmental Health Issues. Invited presentation at the United States/Mexico Conference on Hazardous Waste Management and Technologies, Tucson, AZ, August 9-11, 1998.

Zenick, H., Otto, D., Hern, S, Schumacher, B., and Philen, R. Pesticide exposures and health risks to children in U.S.-Mexico Border communities. Invited presentation for the session on Health Exposure and Risk in Agricultural Communities at the ISEE/ISEA Conference 1998, Boston, MA, August 15-19, 1998.

PREVIOUS GRANTS:

University of Cincinnati

March of Dimes 15-58: The Relationship Between Sperm Integrity and Reproductive Outcomes. 12/1/83-11/30/85 (Prin. Investigator).

March of Dimes 15-59: The Effects of Xenobiotics in Uterine Fluid on Sperm Integrity. 12/1/83-11/30/85 (Prin. Investigator).

March of Dimes 15-60: Assessment of Reproductive Status of Male Wastewater Treatment Workers. 12/1/83-5/30/86 (Prin. Investigator).

National Institute of Occupational Safety Health. R01-OH01272-03: Effects of Carbon Disulfide on Male Reproduction. 10/1/81-8/31/84 (Prin. Investigator).

Environmental Protection Agency CR808922-01: Breeding Colony and Conduct of Teratology and Reproduction Studies. 3/1/81-4/30/84 (Co-Investigator).

Environmental Protection Agency, CR-808880: Reproductive/Teratologic Assessment and Pharmacokinetics of Selected Organochloride Contaminants. 11/14/81-2/28/85 (Co-Investigator).

National Institute of Environmental Health Sciences, ES01566: Behavioral Effects of Lead Exposure in Children and Animal Models (Behavior, Neurochemistry). 1980-1982 (Co-Investigator).

National Institute of Environmental Health Sciences, Individual Research Service Award, 5F32 ES05111, 1978-1980.